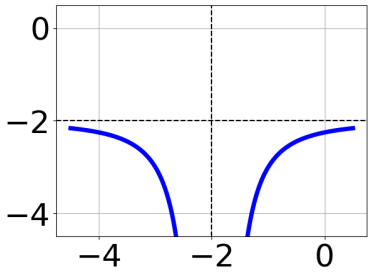
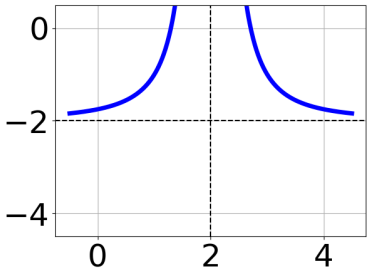
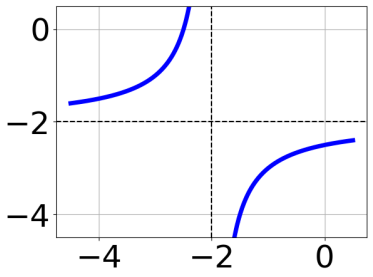
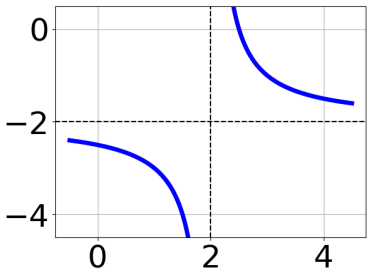
1. Choose the graph of the equation below.

$$f(x) = \frac{-1}{x+2} - 2$$

A. 

C. 

B. 

D. 

E. None of the above.

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2. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{63}{54x+27} + 1 = \frac{63}{54x+27}$$

A. $x \in [-0.5, 0.5]$

B. $x_1 \in [-1.5, 0.2]$ and $x_2 \in [0.3, 1.4]$

C. $x_1 \in [-1.5, 0.2]$ and $x_2 \in [-1.4, 0.1]$

D. All solutions lead to invalid or complex values in the equation.

E. $x \in [0.3, 0.8]$

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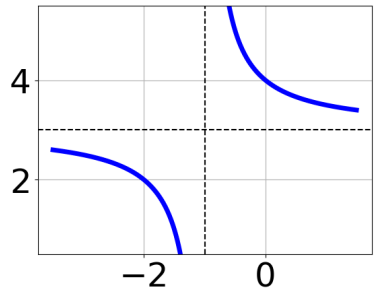
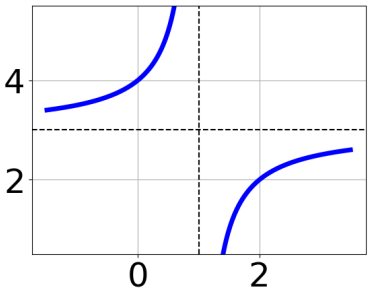
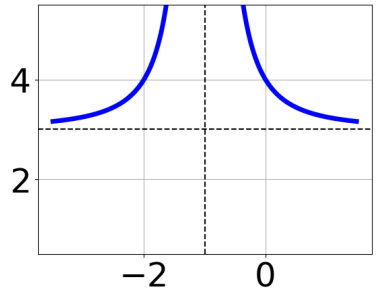
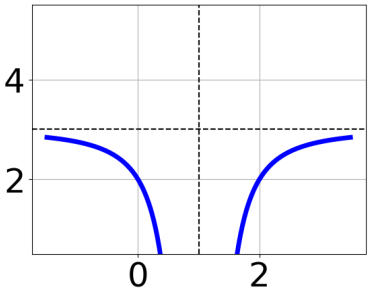
3. Choose the graph of the equation below.

$$f(x) = \frac{1}{(x-1)^2} + 3$$

A. 

C. 

B. 

D. 

E. None of the above.

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4. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-6}{-6x-4} + -8 = \frac{8}{48x+32}$$

A. $x \in [-2.56, 1.44]$

B. $x_1 \in [-1.3, 0.4]$ and $x_2 \in [0.77, 1.77]$

C. All solutions lead to invalid or complex values in the equation.

D. $x_1 \in [-1.3, 0.4]$ and $x_2 \in [-1.38, 0.62]$

E. $x \in [0.2, 1]$

---

5. Determine the domain of the function below.

$$f(x) = \frac{6}{15x^2 - 8x - 16}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [-20, -18]$ and $b \in [10, 15]$

B. All Real numbers except $x = a$, where $a \in [-0.8, 1.2]$

C. All Real numbers except $x = a$, where $a \in [-20, -18]$

D. All Real numbers except $x = a$ and $x = b$, where $a \in [-0.8, 1.2]$ and $b \in [0.33, 5.33]$

E. All Real numbers.

---

6. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-2x}{6x-7} + \frac{-3x^2}{24x^2+8x-42} = \frac{-6}{4x+6}$$

A. All solutions lead to invalid or complex values in the equation.

B. $x_1 \in [3.5, 4.4]$ and $x_2 \in [-1.22, 3.78]$

C. $x_1 \in [0.1, 1.4]$ and $x_2 \in [-6.5, 0.5]$

D. $x \in [-3.7, 0.3]$

E. $x \in [0.1, 1.4]$

---

7. Determine the domain of the function below.

$$f(x) = \frac{5}{18x^2+15x-25}$$

A. All Real numbers except $x = a$ and $x = b$, where $a \in [-17, -13]$ and $b \in [29, 32]$

B. All Real numbers.

C. All Real numbers except $x = a$, where $a \in [-3.67, -0.67]$

D. All Real numbers except $x = a$, where $a \in [-17, -13]$

E. All Real numbers except $x = a$ and $x = b$, where $a \in [-3.67, -0.67]$ and $b \in [0.83, 3.83]$

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8. Solve the rational equation below. Then, choose the interval(s) that the solution(s) belongs to.

$$\frac{-3x}{-2x+6} + \frac{-2x^2}{12x^2-48x+36} = \frac{5}{-6x+6}$$

A. $x \in [1.34, 1.87]$

B. $x_1 \in [-1.15, -0.96]$ and $x_2 \in [3, 6]$

C. $x \in [0.46, 1.62]$

D. All solutions lead to invalid or complex values in the equation.

E. $x_1 \in [-1.15, -0.96]$ and $x_2 \in [-2.36, 2.64]$

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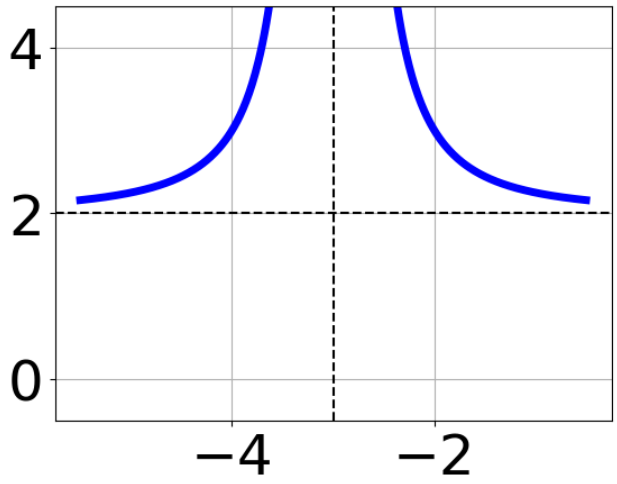
9. Choose the equation of the function graphed below.



A. $f(x) = \dfrac{-1}{(x+3)^2} + 2$

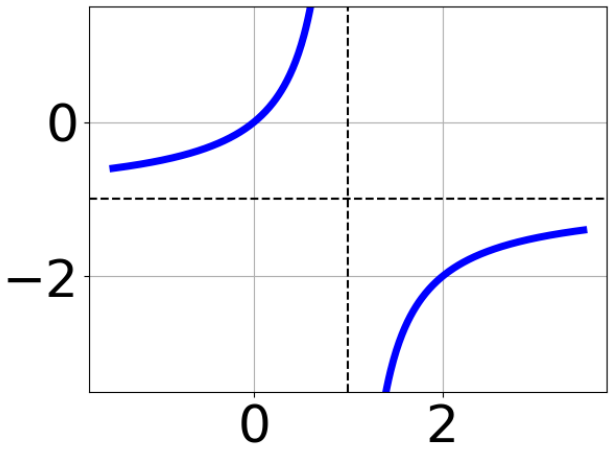
B. $f(x) = \dfrac{-1}{x+3} + 2$

C. $f(x) = \dfrac{1}{(x-3)^2} + 2$

D. $f(x) = \dfrac{1}{x-3} + 2$

E. None of the above

10. Choose the equation of the function graphed below.



A. $f(x) = \dfrac{1}{x+1} - 1$

B. $f(x) = \dfrac{-1}{(x-1)^2} - 1$

C. $f(x) = \dfrac{-1}{x-1} - 1$

D. $f(x) = \dfrac{1}{(x+1)^2} - 1$

E. None of the above